Electronic TUBE

1U5
Description and Rating
DIODE-PENTODE

The 1U5 is a miniature diode sharp-cutoff pentode designed for use as a combined detector, audio-frequency amplifier, and automatic-volume-control tube in compact, battery-operated receivers. The diode section is effectively shielded from the pentode section to reduce feed-through effects.

GENERAL

Cathode - Coated Filament		
Filament Voltage, D-C	1.4	Volts
Filament Current	0.05	Ampere
Envelope - T-5½, Glass		
Base - E7-1, Miniature Button 7-Pin		
Mounting Position - Any		

Direct Interelectrode Capacitance

	With Shield*	Without Shield	
Diode Plate to Grid-Number 1, maximum	0.04	0.04	μμf

MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage	90	Volts
Screen Voltage	90	Volts
Positive D-C Grid-Number 1 Voltage	0	Volts
Negative D-C Grid-Number 1 Voltage	50	Volts
D-C Cathode Current	3.0	Milliamperes
Diode Current for Continuous Operation	0.25	Milliampere

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

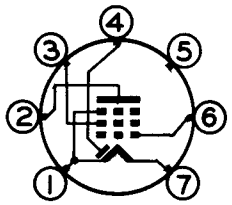
Plate Voltage	67.5	Volts
Screen Voltage	67.5	Volts
Grid-Number 1 Voltage	0	Volts
Plate Resistance, approximate	0.6	Megohm
Transconductance	625	Micromhos
Plate Current	1.6	Milliamperes
Screen Current	0.4	Milliampere
Grid-Number 1 Voltage, approximate, I_b = 10 Microamperes	-5	Volts
Average Diode Current With 10 Volts D-C Applied	1.5	Milliamperes

* *With external shield (RTMA 316) connected to pin 1.*

+ *The diode is located at the negative end of the filament.*

Note: All voltages are referred to the negative terminal of the filament.

BASING DIAGRAM

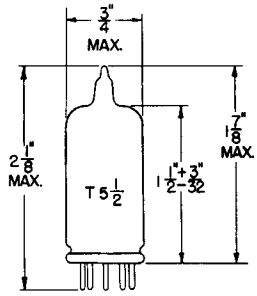


RTMA 6BW
BOTTOM VIEW

TERMINAL CONNECTIONS

Pin 1 - Negative Filament and Grid Number 3
Pin 2 - Plate
Pin 3 - Grid Number 2 (Screen)
Pin 4 - Diode Plate +
Pin 5 - No Connection
Pin 6 - Grid Number 1
Pin 7 - Positive Filament

PHYSICAL DIMENSIONS



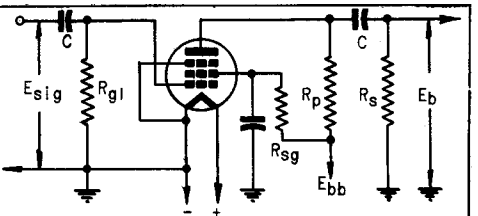
RTMA 5-2

GENERAL ELECTRIC

Supersedes ET-T533A dated 4-50

CLASS A RESISTANCE-COUPLED AMPLIFIER

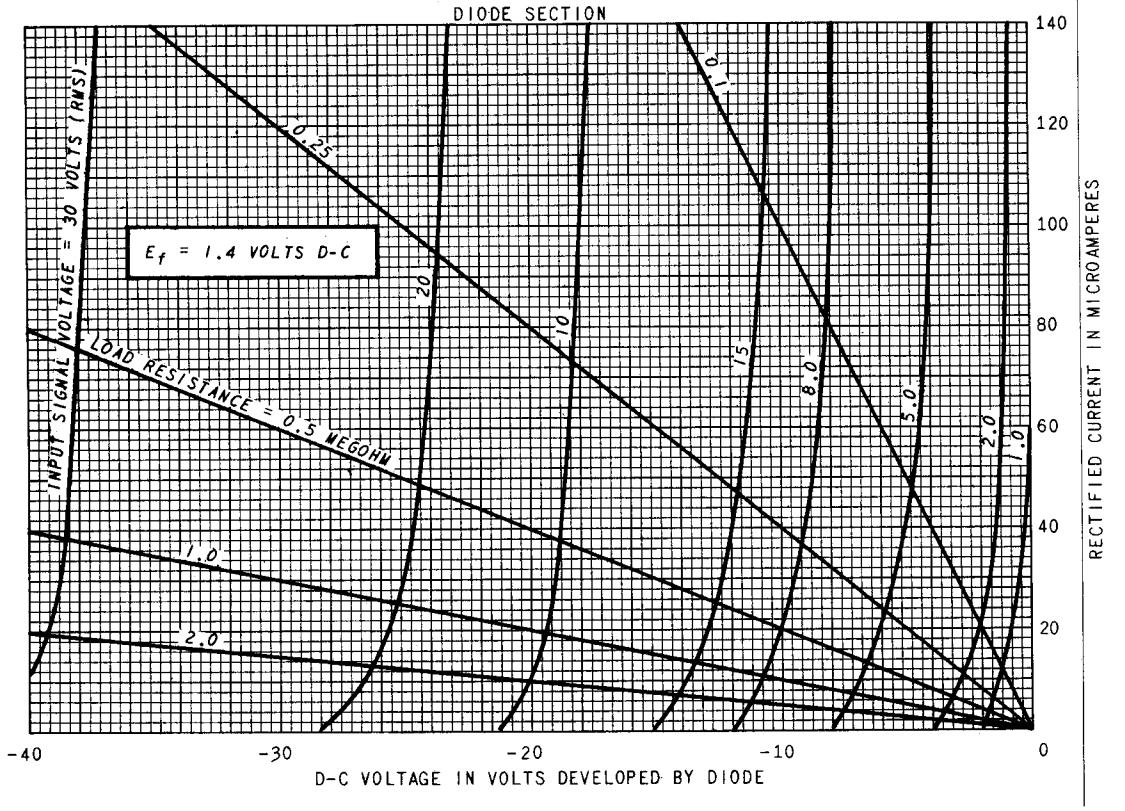
Rp Meg.	Rs Meg.	Rg1 Meg.	Ebb = 45 Volts				Ebb = 90 Volts				Ebb = 135 Volts			
			Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo
0.24	0.24	10	–	0.5	18	6.4	–	0.8	29	13	–	1.0	38	20
0.24	0.51	10	–	0.5	24	8.0	–	0.9	38	15	–	1.1	40	25
0.24	1.0	10	–	0.6	28	8.4	–	1.0	45	17	–	1.2	55	28
0.51	0.51	10	–	1.1	25	5.9	–	1.9	40	12	–	2.3	52	19
0.51	0.75	10	–	1.2	29	6.5	–	2.0	46	13	–	2.0	61	22
0.51	1.0	10	–	1.4	32	6.6	–	2.2	51	14	–	2.5	65	22
0.75	0.75	10	–	1.9	29	5.1	–	2.9	47	11	–	3.2	61	18
0.75	1.0	10	–	2.0	32	5.2	–	3.0	52	11	–	3.4	67	18
1.0	1.0	10	–	2.7	31	4.3	–	3.9	50	9	–	4.6	66	15



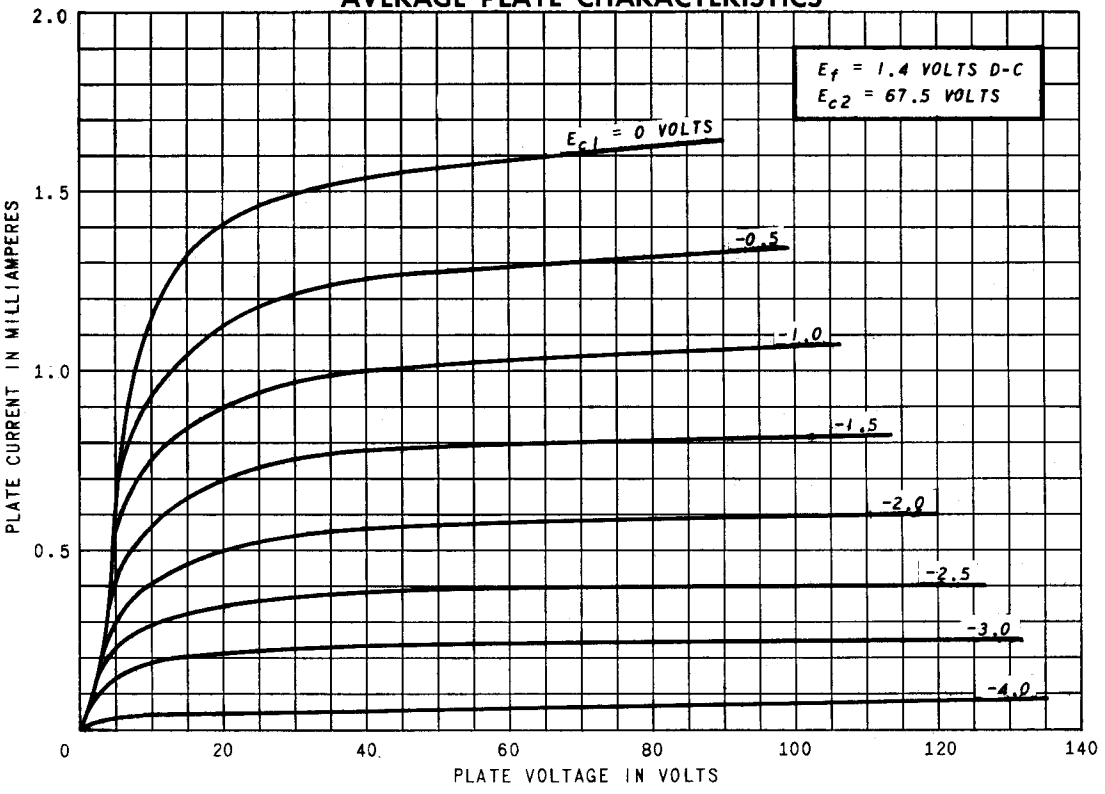
Note: Coupling capacitors (C) should be adjusted to give desired frequency response. R_{sg} should be adequately by-passed.

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data, generator impedance is negligible.

OPERATION CHARACTERISTICS

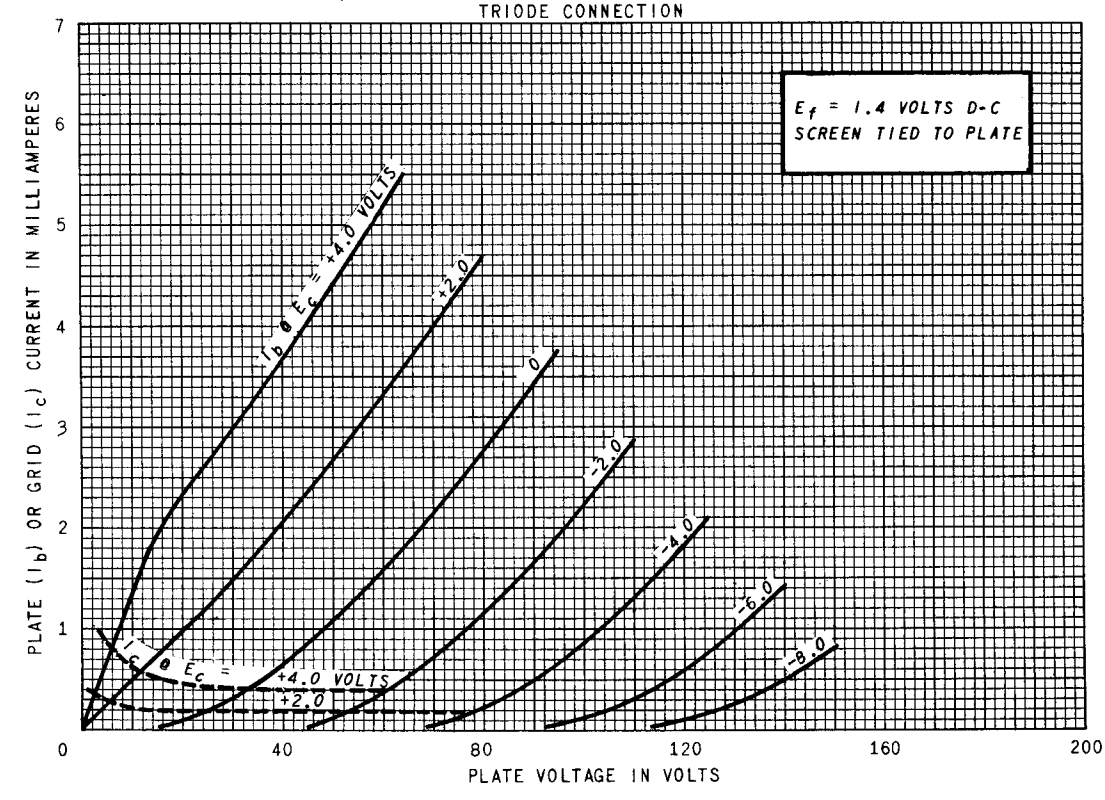


AVERAGE PLATE CHARACTERISTICS

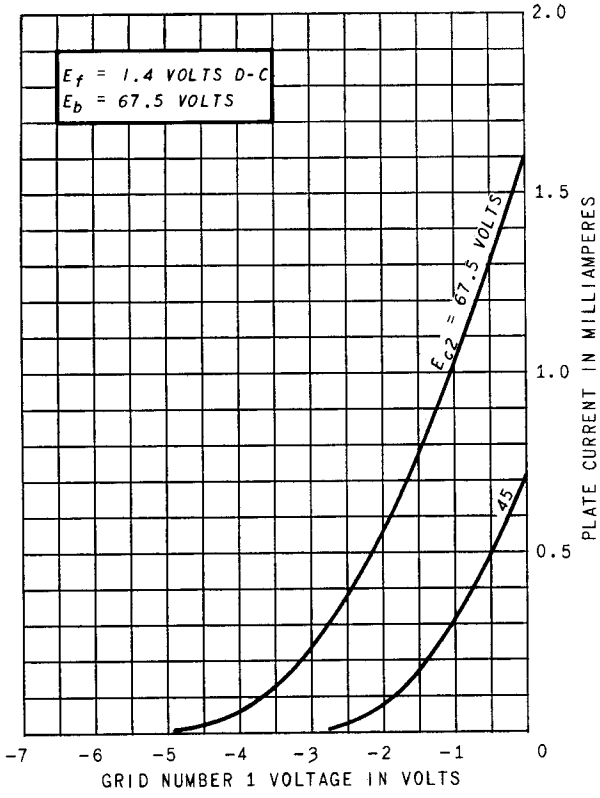


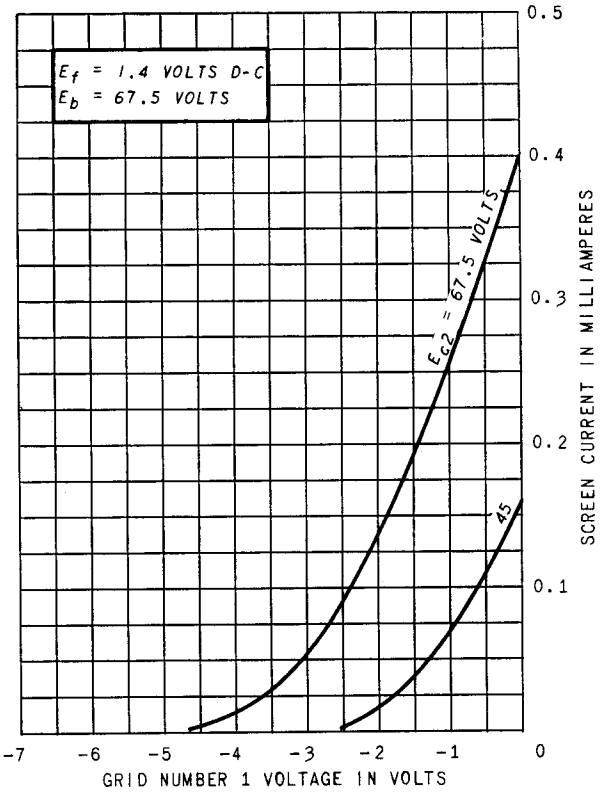
AVERAGE PLATE CHARACTERISTICS

TRIODE CONNECTION

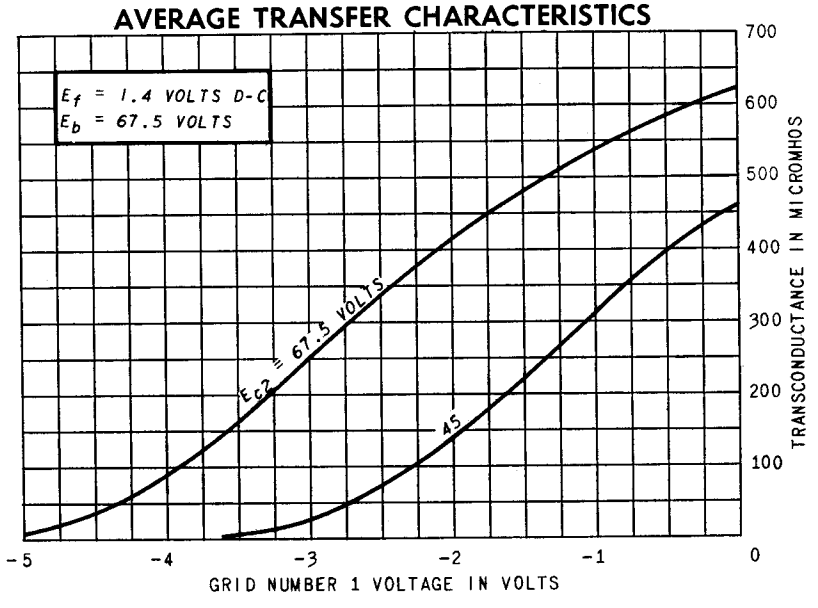


AVERAGE TRANSFER CHARACTERISTICS





AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT
GENERAL ELECTRIC
Schenectady 5, N. Y.